

## IMPLICATION OF SPATIAL PATTERN OF HOUSING DISTRIBUTION TO THE EXISTENCE OF AGRICULTURAL LAND IN TABANAN URBAN AREA

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### ABSTRACT

The Tabanan Urban Area functions as a buffer area (counter magnet) around the Sarbagita Metropolitan core area, namely Denpasar and Kuta. Regional development is directed as a center for government services, trade and services as well as urban settlements. The Tabanan Urban Area is currently the target of expansion of urban housing development, especially those carried out by developers. Most housing developments occur on agricultural land that functions as a buffer for the Balinese 'subak' cultural order. This study aims to see the implications of the spatial pattern of housing distribution on the existence of agricultural land in the Tabanan Urban Area. This study uses a descriptive qualitative approach with a historical spatial tracking method. Periodization of housing distribution pattern is done by map overlay analysis and nearest neighbor analysis. The findings of this study indicate that the spatial distribution pattern of housing occurs randomly and spreads with a leap-frog development pattern. This form was found to be the most offensive dispersal pattern in reducing existing agricultural land. The implication of this housing distribution pattern on the rate of land conversion was found to reach 40.39 ha or about 33.25% of the Tabanan urban area. Subak, as a subsystem of Balinese cosmic spatial planning, has experienced decadence not only at the physical level, but extends to the systemic socio-religious dimension. The intrusive pattern of Balinese culture and culture occurs due to high land use discrepancies. This is especially true for the three subak subsystems, namely parhayangan-pawongan-palemahan.

**Keywords:** urban area; housing; conversion of agricultural land; subak; culture.

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### INTRODUCTION

An urban area is characterized as a location with a large concentration of population and settlements. It includes heterogeneous and intensive socio-economic activities outside of agricultural activities. According to Law Number 26 of 2007 concerning Spatial Planning, urban areas are areas that have non-agricultural main activities with the arrangement of regional functions as urban settlements, centralization and distribution of government services, social services, and economic activities. Therefore, the characteristics of land use in urban areas usually lead to land use for more profitable economic activities outside of agriculture. Catanese (1992), states that the largest land use in urban areas is for housing. The construction of new housing continues to be carried out due to increasing demand. This is a consequence of the increase in population which has implications for the increasing need for urban housing and its supporting activities.

The increase in housing development is also a contribution from the expansion of housing carried out by developers. Housing development by this developer is categorized as a formative and invasive process. This is because the construction is carried out in large numbers and covers a much wider area. According to Yunus (2005), the role of developers in whether or not the physical development of urban areas is rapid or not is very significant. An area where there is a new housing complex will develop faster than an area that is not built. The rampant development of housing for housing will always be followed by the construction of supporting facilities and infrastructure built by the developer.

The rapid demand for residential land certainly raises concerns, especially for the existence of diminishing agricultural land due to housing developments. In the process, the conversion of agricultural land is always closely related to the expansion or expansion of urban areas as a physical

manifestation of the urbanization process. According to Lockeretz (1989), the expansion of urban areas will have an impact on the surrounding area, namely in the form of conversion of agricultural land and an increase in the population working in the non-agricultural sector. Koestoer (2001), said that the transition of space in urban areas was marked by the change of rice fields (non built-up areas) into residential areas, trade, services, education development centers and other urban facilities (built-up areas). This space shift is driven by the growing demand for land caused by population growth and the accompanying socio-economic activities. This interaction between demand and supply of land will result in land use patterns that lead to the most profitable activities. In this context, the phenomenon of the conversion of agricultural land to non-agricultural land uses occurs.

The Tabanan Urban Area is part of the Sarbagita Metropolitan Area. Its development is directed as an urban service center on a regional scale, namely as a center for government services, trade and services, education, health as well as urban housing development. The Tabanan Urban Area covers 7 (seven) villages/kelurahan in 2 (two) sub-districts which are located very close to Denpasar City and Badung Regency. Based on data from the Department of Public Works, Spatial Planning, Housing and Settlement Areas (PUPRPKP) of Tabanan Regency, there are currently 130 additional housing units spread throughout the Tabanan urban area. The main pull factors are the relatively cheaper price of land and its affordability to workplaces in Denpasar and Badung.

The number of housing developments in Tabanan is to accommodate the abundance of people who work in Denpasar and Kuta. Land use for settlements in the Tabanan Urban Area in 2009 was recorded at 885.60 hectares, while in 2015 the area of residential land increased to 1,158.54 hectares or an increase of 272.94 hectares (23.59%). At the same time, there has been a reduction in paddy fields of 310.04 hectares during the period of 6 (six) years.

In the development of housing in the Tabanan Urban Area, it was found that there was a violation of the river border. One of the impacts of this violation was the occurrence of a landslide that occurred at the Sandan Sari Anyar Housing, Banjar Jadi Banjar Anyar Village (News Detik.com, 2019). In addition, housing development has not yet completed housing permits, both ITR permits, principle permits and IMBs. Based on data from the One-Stop Integrated Investment and Licensing Service, in 2018 there were 12 (twelve) housing locations with licensing problems.

The incompatibility of space allocation with space utilization is also another problem in relation to housing development. The results of the Ministry of Agrarian and Spatial Planning audit conducted in October 2018, identified indications of inappropriate use of space for housing development in the Tabanan Urban Area. During the last seven years, from 2011 to 2017, it was recorded that the average conversion of agricultural land into buildings in Tabanan Regency reached 53.40 hectares per year or equivalent to 0.25 percent per year (Bali Ekspres, 2019). Most of the conversion of agricultural land has turned into a residential area, which in fact, on average, is included in a productive area, namely agricultural land.

It is well known that agricultural land in Bali is the result of the work of the intelligence of the cultural heritage of the Balinese people in the past. In it there is a local subak organization as a manifestation of the Tri Hita Karana concept of Balinese society in creating harmonization and balance of life between God-human-environment. In a brief presentation on the Cultural Landscape of the Province of Bali: The Subak System as a Manifestation of Tri Hita Karana, it was stated that subak is an institution of unique religious and social value, self-regulating, and an association of democratic farmers who share their responsibilities only for the use of irrigation water. efficient for growing rice.

Subak has two system characteristics that distinguish it from other local institutions. First, the success of cultural innovations in creating areas of stunning beauty and foundation for ecological sustainability; and second, success in a democratic institutional management system that regulates itself independently (Arimbawa, 2016). Therefore, agricultural land in Bali can be said to be not only related to tangible assets but also related to intangibles, namely the existence of cultural innovations and the religious system that runs in them. Its existence is a unified cultural and cultural system of Balinese society that must be preserved (preserved).

However, on the one hand, it must also be acknowledged that the high demand for land for housing development has an impact on reducing land for other functions. This means that there is a land substitution from non-built to built. In this case, the use of agricultural land into housing functions. This change does not only concern the physical aspect of the land, but also relates to the cultural aspect. The loss of agricultural land certainly contributes to the loss of cultural continuity of Balinese society. Various rites and ceremonies of worship of Dewi Sri and her attributes will be stopped. The Subak Temple will lose its supporting manners, as well as other problems such as the loss of catchment areas and water reserves for irrigation and clean water.

Based on the complexity of the circulation of the problems above, this study aims to provide an overview of the phenomenon of housing development expansion carried out by developers on agricultural land in the Tabanan Urban Area. The pattern of distribution of housing developments is used as the basis for projecting the trend towards future housing developments. The research is expected to be a recommendation for land use planning and management that pays attention to sustainable development and of course as an anticipatory and preventive measure to protect existing agricultural productive lands.

In planning, the data needed about the history of housing that will be planned, built and marketed is needed. Residential building planning is very important to avoid problems in the future. Good housing will determine good marketing. So that if it is planned, calculated and marketed it will get the economic value according to the plan. Housing is a need for everyone. With housing, it will support the need for board facilities for every individual who needs it (Lutfi M, Syaifullah BN, 2020; Natasamita G, et al, 2018; Sabariah I, et al, 2012).

Housing in the context of life will determine the policy direction of each decision maker. Housing is supported by a good concept in terms of architecture, construction and financing. The planning of housing facilities is important to take into account so that according to a good plan, housing will determine its own direction. The policies implemented in each region determine regional progress in implementing the type of housing to be built (Astoeti DR, Dwijendra NKA, 2021; Sinabariba D, et al, 2021; Vianthi NPYL, Putra IDGAD, 2022; Putri NNS, Dwijendra NKA, 2021).

## **RESEARCH METHODS**

This research is a type of qualitative-descriptive research with a historical approach. Through the method of spatial tracking of the periodization of housing developments, the historical development of housing and its implications for agricultural land can be systematically documented. This is then used as the basis for observing the trend of housing distribution patterns that occur and the factors that cause it. The result of the research is to get a comprehensive picture of the spatial patterns and trends of housing development that occur in the Tabanan Urban Area.

This study begins by identifying housing developments based on data on the distribution of existing housing to date. The data on the distribution of housing identified as many as 130 housing. The housing distribution data is then reconstructed by analyzing the map overlay using ArcGIS software. This process produces a map of the periodization of housing developments in the Tabanan Urban Area. Furthermore, to the distribution of housing, an analysis was carried out with a map of the distribution of agricultural land so that the amount of conversion of agricultural land into housing is known. The database used in this periodization analysis is the 1992, 2006 and 2019 land use maps.

The housing distribution pattern is then identified using the closest housing distance variable with reference to the accessibility to reach it from housing points to other housing points. The pattern of distribution of housing in the Tabanan Urban Area uses the nearest neighbor data analysis technique proposed by . J. Clark and F.C. Evans (1954), namely the Nearest Neighbor Analysis method. This analysis is used to explain the distribution pattern of the location points by using calculations that consider the number of location points and the area and distance. The final result of this analysis is an index (T). The results of empirical measurements will produce 3 distribution patterns, namely (1) cluster pattern; (2) uneven distribution pattern (random pattern); and (3) a distributed pattern.

## RESULTS AND DISCUSSION

### Periodization of Housing Development in Tabanan Urban Area

Based on data from the PUPRKPKP Office of Tabanan Regency in 2020, the number of houses in the Tabanan Urban Area reached 29,380 houses. The total population of the Tabanan Urban Area is 76,654 people with the number of family heads reaching 21,678 families. If seen from the data, there are still 7,702 houses available from what is needed. The high number of available houses is allegedly due to the large number of migrants living and owning houses in the Tabanan Urban Area. Geographically, the Tabanan Urban Area is located adjacent to Denpasar City and very close to Kuta as a tourism center. This makes Tabanan a strategic location for housing development due to high demand and relatively cheap land prices.

It is not known with certainty the first housing built in the Tabanan Urban Area. However, through an interview with the Head of the Spatial Planning Section of the Tabanan Regency PUPRKPKP Office, information was obtained that the Bukit Sanggulan Indah (BSI) Housing was the first housing in the Tabanan Urban Area. Bukit Sanggulan Indah Housing (BSI) is located in Banjar Anyar Village, developed by Perum Perumnas Branch VI Denpasar Unit. This housing complex can be said to be the forerunner of housing development carried out by developers in the Tabanan Urban Area. The next housing development that occurs is the expansion of this housing.

To find out housing developments in the Tabanan Urban Area, the tracking of land use data is divided into three periods. The first period, until 1992; The second period, 1992 – 2006; and the third period, 2006 – 2019. The sequential division of this period can describe how the housing development process occurs. The periodization of housing development in the Tabanan Urban Area is more clearly described as follows:

#### Period Up to 1992

In this first period, the results of the map overlay show that in this period 15 houses have developed. The distribution of housing in the first period was in 4 villages, namely 3 housing in Dauh Peken Village, 1 housing in Dajan Peken Village, 8 housing in Kediri Village and 3 housing in Banjar Anyar Village. The housing area in the first period reached 26.83 ha with a total of 1,697 units of built houses. In this first period, housing development was carried out by the government, housing developers (developers) and individuals.

Of the 15 existing housing, as many as 3 housing was built by the government. The housing is Bukit Sanggulan Indah Housing by Perum Perumnas and army service housing consisting of PUSKOPAD I and PUSKOPAD III Housing. Meanwhile, the housing units built by individuals consist of 2 housing units covering Jl. Pulau Nias Housing Gg. III 1 and Housing Jl. Marsapati 1. The other 10 housing estates were built by developers. Bukit Sanggulan Indah housing estate is the largest housing development that has been developed in this period with an area of 16.97 ha and a total of 1,178 units.



**Figure 1.** Perum Puskopad III, the Forerunner of Housing in the Tabanan Urban Area (Noorwahyuni, 2019)

### **Period 1992 – 2006**

In this period the distribution of housing became 36 housing or increased by 21 housing. The increase in the distribution area of housing in the period 1992-2006 was 29.85 ha with the number of houses built reaching 1,542 units. The largest addition to the distribution of housing in this period was in Banjar Anyar Village as many as 9 housing. Followed by Dauh Peken Village as many as 5 housing and in Kediri Village as many as 4 housing. Denbantas, Delod Peken and Dajan Peken villages have 1 housing each.

The addition of the number of housing is still dominated by housing development by housing developers (developers), which is as many as 18 housing. Meanwhile, housing built by the government is in the form of official housing, namely PUSKOPAD II Housing. Housing construction by individuals also increased by 2 housings located on Jalan Nias Gg. II and Gg. III 2. Tanah Bang Permai housing is housing with the largest number of houses, namely 250 units which cover an area of 5.83 hectares



**Figure 2.** Pesona Rajawali Housing in Tabanan Urban Area In the second period (Noorwahyuni, 2019)

### **Period 2006-2019**

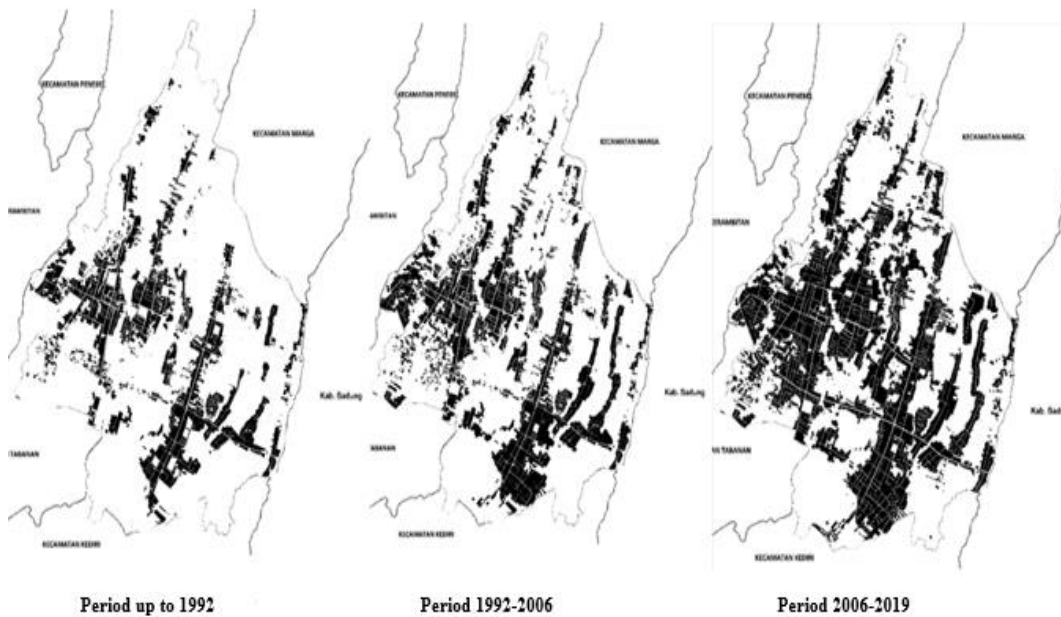
The development of housing distribution in this period with the addition of housing to reach 94 housing. The largest addition to the distribution of housing was in Banjar Anyar Village with 35 housing units, followed by 22 housing in Dauh Peken Village and 19 housing in Denbantas Village. Furthermore, in Delod Peken Village there are 8 housing estates, in Kediri Village there are 5 housing estates, in Dajan Peken Village there are 4 housing units and 1 housing in Abiantuwung Village.

In this third period, housing development was mostly carried out by housing developers (developers) and individuals. In this third period there is no longer any housing development carried out by the government. A total of 19 houses were built by individuals, while the other 75 houses were built by housing developers. The largest housing estate built in this third period is Griya Multi Jadi Housing with 613 housing units with a land area of 10.17 hectares. Then followed by Multi Griya Sandan Sari Sanggulan Housing with 186 housing units and a land area of 3.35 hectares. Housing with the smallest number of housing units, namely Housing Jl. Cell Bedugul. Asri 6 which only amounts to 3 units.



**Figure 3.** Kamasan River View Housing in the Tabanan Urban Area In the third period (Noorwahyuni, 2019)

Based on the results of field observations, it is known that housing in the Tabanan Urban Area is generally simple housing with house types starting from type 21, type 36 and type 45. Although there are also housing with other types of houses such as type 70, type 90 and type 120 In one housing cluster, on average, there is only one type of housing. These simple housing estates generally have a land area of less than 100 m<sup>2</sup>. The housing development is carried out following the provisions of the nationally determined minimum land area of 60 m<sup>2</sup>.



**Figure 4.** Periodization of housing distribution patterns in the Tabanan Urban Area (Source: Results of interpretation of the Tabanan Urban Area Land Use Map 1992, 2006, 2020)

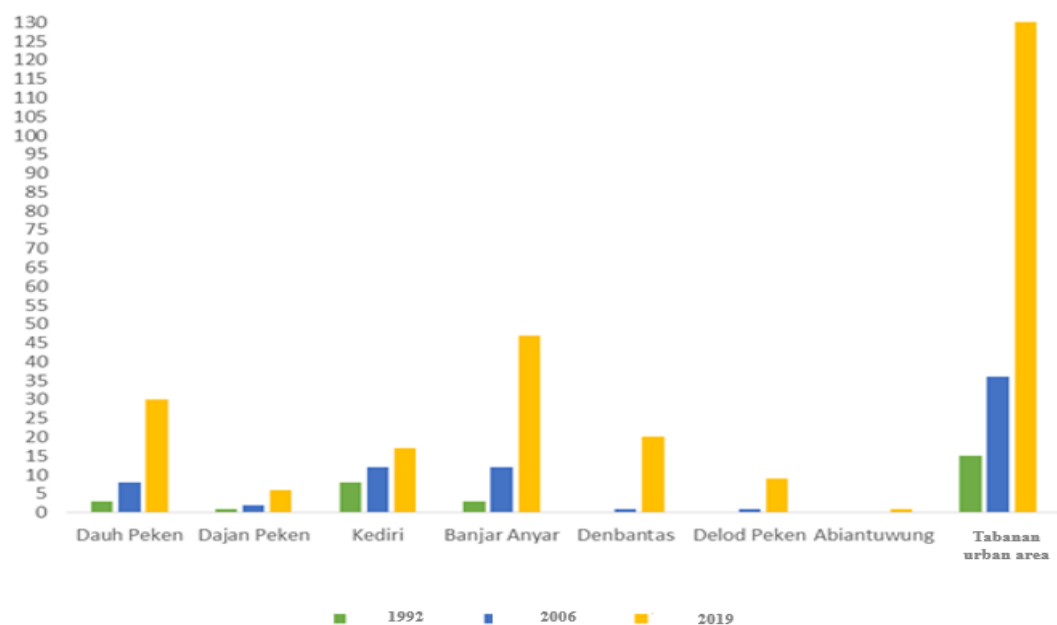
This is contradictory to the bupati regulation which directs simple housing with a minimum area of 100 m<sup>2</sup>. Likewise, the minimum number of houses permitted is 20 house lots. However, the reality on the ground is that there are houses that only consist of 3 housing units. Not to mention when viewed from the availability of public facilities and social facilities, many housing estates do not have these facilities.

The development of the distribution of housing in the Tabanan Urban Area shows that housing is mostly built by developers, besides that there is also housing built by the government and

individuals. The high rate of housing development by housing developers indicates that the Tabanan Urban Area is a profitable location for investing in the property sector in the form of housing.

The development of housing distribution in the Tabanan Urban Area is still not well structured and mapped. Housing development is mostly controlled by the private sector, which tends to invest to achieve profit.

Housing development in the Tabanan Urban Area continues to increase. When compared between the first and second periods, the number of housing distributions has more than doubled. In the third period, the spike in the distribution of housing experienced a very rapid increase, reaching more than eight times compared to the first period or almost four times in the second period. From the calculation of the interpretation of the land use map carried out, the area of the settlement area in 2019 reached 935.08 Ha. As much as 123.43 ha of the area of the settlement area is a residential area. The results show that housing in the Tabanan Urban Area is not only for local residents, but is also in demand by residents outside the Tabanan Urban Area and even outside Bali.



**Figure 5.** Graph of Housing Distribution in Tabanan Urban Area (Noorwahyuni, 2020)

#### **Distribution Pattern of Housing in Tabanan Urban Area**

The distribution pattern of housing in the Tabanan Urban Area is obtained from the T value which is interpreted by the Continuum Nearest Neighbor Analysis by Hagget (1970). From the results of the analysis, the distribution pattern of housing in the Tabanan Urban Area tends to be a random pattern. This is indicated by the magnitude of the T value of 1.25. The existence of housing tends to randomly spread in several places, namely in the Sanggulan, Tanah Bang, Kediri, Bakisan, Dauh Pala, Tuakilang and Carnation areas.

For example, in the Sanggulan area, the existence of the Bukit Sanggulan Indah Housing Center encourages the development of housing randomly spreading in the northern part. The location where most of the housing was gathered was found to be similar, namely that the housing locations were close to the main road. It is also seen that housing locations are growing spread to areas towards the outskirts of the Tabanan Urban Area, such as towards Tanah Lot, Yeh Gangga, Alas Kedaton, Jatiluwih and Buahian Villages.

The pattern of distribution of housing in the period up to 1992 shows that housing is randomly distributed but tends to cluster in four locations, namely Sanggulan, Kediri, Bakisan and Dauh Pala

areas. The Sanggulan area has developed 3 housing estates, namely Bukit Sanggulan Indah Housing, Puskopad I Housing and Puskopad III Housing. The largest housing distribution pattern is in the Kediri area, where 8 housing estates have developed.



**Figure 6.** Map of Housing Distribution Patterns in Tabanan Urban Area Period Until 1992 (Noorwahyuni, 2020)

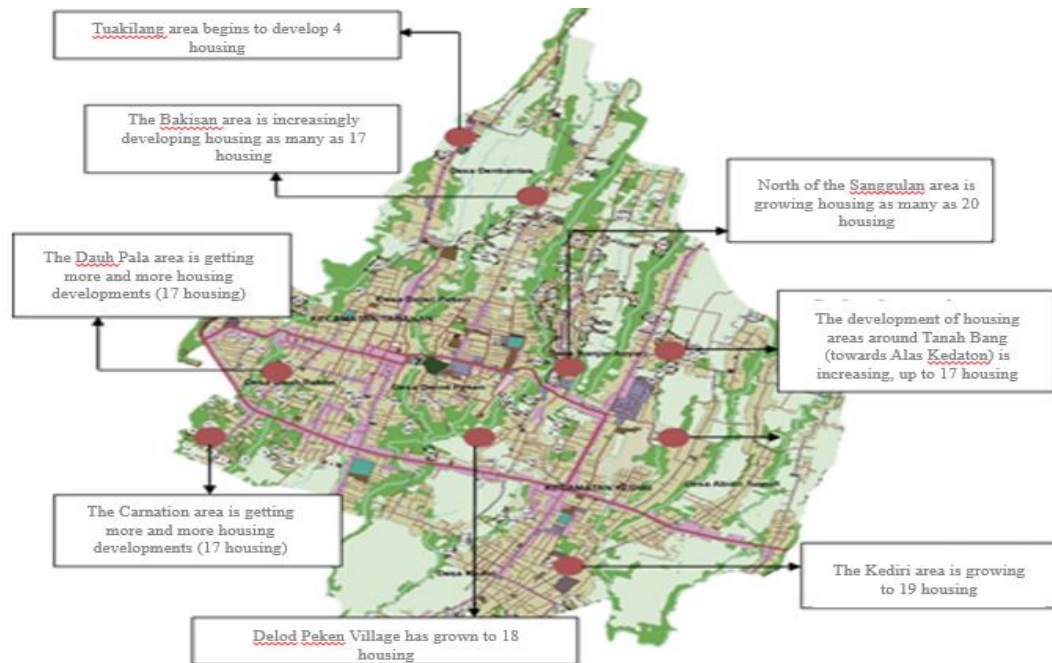
In the period 1992 - 2006 shows that housing is randomly distributed in new locations. The additional locations are in the Villages of Delod Peken, Tanah Bang and Carnations. Housing in Delod Peken Village began to develop 2 housing, Tanah Bang developed 3 housing while Anelir developed 1 housing. The Kediri area is still the area with the highest number of housing, namely 14 housing or an increase of 6 housing. The Sanggulan area increased by 6 housing so that it became 9 housing. The Dauh Pala area has 7 housing estates or 4 more housing estates and the Bakisan area has 1 additional housing.



**Figure 7.** Map of Housing Distribution Patterns in Tabanan Urban Area Period 1992-2006 (Noorwahyuni, 2020)



Meanwhile, the housing distribution pattern in the period 2006 - 2019 shows a fairly massive development. There are two additional locations for housing distribution patterns, namely in the Tuakilang and Abiantuwung areas. In the Tuakilang area, there were 4 housing developments, while in Abiantuwung 1 housing developed.



**Figure 8.** Map of Housing Distribution Patterns in the Tabanan Urban Area for the Year 1992-2006 (Noorwahyuni, 2020)

**Implications of the Distribution Pattern of Housing on the Transfer of Agricultural Land Functions**

The pattern of distribution of housing in the Tabanan Urban Area causes spatial changes, especially changes in land use. Based on the overlay of the housing distribution pattern map with land use maps from 1992 to 2006 and from 2006 to 2019, it can be seen what lands have changed, especially for housing.

**Table 1.** Changes in Land Use Due to the Distribution Pattern of Housing in the Tabanan Urban Area (Norwahyuni, 2019)

No.	Penggunaan Lahan yang Mengalami Perubahan	Tahun 1992 - 2006		Tahun 2006 - 2019	
		Luas (Ha)	%	Luas (Ha)	%
1.	Kebun	25,97	20,59	34,14	28,10
2.	Sawah Irigasi	64,59	51,20	40,39	33,25
3.	Ladang	2,69	2,13	3,35	2,75
4.	Sempadan Sungai	-	-	0,28	0,23

Based on Table 1 above, it is known that the lands that experienced changes in land use for housing include gardens, irrigated rice fields, fields and river borders. Changes in land use that occurred in the period 1992 – 2016 included gardens covering an area of 25.97 hectares (20.59%), irrigated rice fields covering an area of 64.59 hectares (51.20%) and fields covering an area of 2.69 hectares (2.13 %). In the period 2006 – 2019, land that tends to undergo changes for housing development has penetrated river border land. As for the land use change that occurred in the period 2006 – 2019 covering an area of 34.14 Ha (28.10%), irrigated rice fields covering an area of 40.39 Ha (33.25%), fields covering an area of 3.35 Ha (2, 75%) and the river border area of 0.28 Ha (0.23%).

The findings above indicate that the lands that experience the most changes in function are rice fields. These paddy fields are very vulnerable to land conversion which is influenced by various factors. These include: (1) income from farming is not sufficient for a decent living unless the land is sold or rented out for non-agricultural use; (2) 75% of farmers aged > 50 years; (3) the productivity of paddy fields is stagnant (5.6 tons/ha); (4) the area of cultivation is getting narrower, fragmented by the existence of a culture of "for inheritance" which is an average of 3000 m<sup>2</sup> per family for rice fields; (5) the availability of irrigation water is decreasing as seen from the quality of irrigation channels, garbage disturbances and reduced water discharge; (6) the application of tax rates does not differentiate between settlement and agricultural functions; (7) weak/absence of legal/market/insurance protection for farmers; and (8) the increase in land prices due to the construction of a network of supporting infrastructure and continuing to stimulate other farmers to sell their land.

The high rate of conversion of agricultural functions is also driven by the existence of policies that support the development of residential areas, including for housing development. Based on the current conditions in the field, several locations designated as residential areas are still productive paddy fields. Such as in the Sanggulan area, Banjar Gerang and Dauh Pala. Some of these locations are still productive rice fields but already have HGB which will later become built-up areas.



**Figure 9.** Extension of Housing Development on Productive Agricultural Land ((Noorwahyuni, 2019)

### **Patron for the conversion of agricultural land and the disappearance of Subak in the Tabanan Urban Area; Spatial Pragmatism amidst Local Cultural Retention**

Based on the results of the analysis and interpretation of the data that has been done, the implications of the housing distribution pattern on the conversion of agricultural land in the Tabanan Urban Area tend to form a scattered and random pattern. This tendency is characterized by several factors, namely; First, the pattern of distribution of housing that is randomly distributed follows the existing road network system; Second, the distribution of housing occurs centrifugally to the north and south; and Third, the availability of public facilities and social facilities which tend to be located in the city center causes the distribution pattern of housing to be oriented close to these facilities.

This pattern is commonly referred to as a form of leap-frog development. This type is a form of urban development that occurs sporadically outside the main built area. New development areas are formed, usually in undeveloped areas. This form of development is the most offensive form to agricultural lands.

This spatial patron is very worrying in terms of the sustainability of the subak culture as a form of agrarian culture of the Balinese people. This random and jumpy form of development has offensively resulted in the rapid reduction of agricultural land in the Tabanan Urban Area. This spatial patron of the conversion of agricultural land does not look at whether the land has rites or cultural links in it.

In fact, it has often happened, the change in the function of agricultural land into housing has caused the function of the Subak temple to be lost due to the absence of the manners of the bearers. Agricultural Academic Professor Wayan Windya said that if the rice fields were changed, Ulun Suwi Temple could be pralined or abolished. Ulun Suwi Temple consists of at least three components, namely the farmer, his agricultural land, and his holy place. When one of them is not present, the subak is declared to no longer exist.



**Figure 10.** Abandoned Subak Temple (Source: <https://www.nusabali.com/>)

As a result of this spatial development of housing, it will not only have physical implications for agricultural land, but cultural processions and rituals will also be lost. Windya, et al (2015) stated that subak is a socio-technical organization, not just an irrigation system, but there are very dense ritual activities.

Symbolically, subak is a sad spirit in maintaining the balance of the universe. Subak is part of Bali's cosmic spatial layout. It contains the philosophy and essence of local wisdom as a form of high commitment to nature conservation and religiosity. Built with the construction of reasoning that empathizes with offerings, harmony, togetherness, and balance for Jagadhita on an ongoing basis.

As the implementation of Tri Hita Karana, subak consists of three subsystems of harmonious relationship between God-Human-Environment or known as Parhayangan-Pawongan-Palemahan. In each part of the subak subsystem consisting of rituals and ceremonies and the existence of subak/ulunsuwi/uluncarik temples is the implementation of the parhayangan aspect. Awig-awig and perarem as a means of control and management of subak as aspects of pawongan. Finally, harmonization of the rice field environment with the surroundings, for example, does not change the contours and damage irrigation water sources as a weak aspect.



**Figure 11.** Ngusaba Aya Ceremony Ahead of Rice Harvest (Source: [mediaindonesia.com](http://mediaindonesia.com))

In the long span of agrarian culture, the subak organization which is estimated to have developed around ten centuries, has built a solid structural and functional network for Bali. With the loss of

agricultural land, it is certain that these three subak subsystems will also disappear. The continuity of Balinese traditions and culture is also experiencing decadence. Lost, eroded the development of civilization. Therefore, protecting agricultural land ak. Subak is the same as protecting the spirit and soul of Bali. Preserve.

## CONCLUSION

This article has described the implications of the housing distribution pattern on the existence of agricultural land in the Tabanan Urban Area through two stages of spatial data analysis, namely periodization and housing spatial distribution patterns. In relation to the research objectives and the results of the analysis conducted, this study found that the periodization of housing development began around 1992 and then grew rapidly, amounting to eight times in the 2006-20019 period. The spatial distribution pattern of housing tends to be random and spread out with a leap-frog development pattern. This form is considered the most offensive form of reducing existing agricultural land. At the end, the implications of this housing distribution on the rate of land use change are found to reach 40.39 hectares or about 33.25% of the Tabanan urban area. Subak, as a subsystem of Balinese cosmic spatial planning, has experienced decadence not only at the physical level, but extends to the systemic socio-religious dimension. This decadence occurs mainly in the three subsystems of parhayangan-pawongan-palemahan as the embodiment of the concept of Tri Hita Karana in Bali. Intrusive patterns towards Balinese culture and culture occur due to the high spatial discrepancy of land use. The patronage of the conversion of agricultural land and the loss of subak in the Tabanan Urban Area is a spatial pragmatism in the midst of the retention of existing local culture.

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